

CLAIMS:

1. A semiconductor device comprising a bond pad structure, which bond pad structure comprises a bond pad disposed above at least one layered structure, but preferably a stack of layered structures, wherein the layered structure comprises a metal layer and a layer of a dielectric material, characterized in that via lines are present in the layer of dielectric material, which via lines are arranged in such a way that the metal layers and the via lines form isolated areas filled with the dielectric material.

5 2. A semiconductor device as claimed in claim 1, wherein the via lines are lines of tungsten.

10 3. A semiconductor device as claimed in claim 1 or 2, wherein a stack of layered structures is present.

15 4. A semiconductor device as claimed in claim 3, wherein the metal layer in each layered structure is a metal plate.

20 5. A semiconductor device as claimed in claim 4, wherein the top and bottom metal layers of the stack are metal plates, and the intermediate metal layer or layers are parallel metal lines.

6. A semiconductor device as claimed in claim 5, wherein the metal lines are patterned in the form of a grid.

25 7. A semiconductor device as claimed in any one of the preceding claims, wherein the via lines are patterned in the form of a grid.

8. A method of manufacturing a semiconductor device as claimed in any one of the preceding claims, comprising the steps of:

(a) forming a metal layer;

- (b) forming a dielectric layer;
- (c) patterning via lines or via grids in the dielectric layer;
- (d) filling the patterned via lines or via grids with a conductive material, such as a metal, and preferably tungsten or copper; and
- 5 (e) applying a metal bond pad on top of the dielectric layer and the filled via lines or via grids.

9. A method as claimed in claim 8, wherein, following step (d), steps (a), (b), (c) and (d) are repeated at least one time.

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10. A method as claimed in claim 8, wherein, following step (d), lines of metal are formed, followed by steps (b), (c) and (d).

11. A method as claimed in any one of claims 8 to 10, wherein the via lines or lines of metal are applied in the form of a grid.